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ABSTRACT

A substantial and indispensable portion of the training of health professionals must be conducted in clinical settings and is performance oriented rather than cognitively oriented. Evaluation methods usually require reliance upon check lists and rating scales and capture a large volume of information in order to accurately reflect the complexity of the clinical setting and the performance of the student in it. In order to correct the problem of information overload usually present in the manual evaluation of the clinical performance of students, a "student clinical-performance information processing system" is developed and described. Various stages in the development of the project are reported and include: (1) developing an experimental clinical rating inventory (CRI); (2) developing a machine-readable rating form using the CRI; (3) developing a rudimentary computer program for processing data obtained from the CRI; (4) preliminary field trials of the CRI and processing program; (5) recommendation by an Academic Computer Users Committee that a new high speed optical reader be acquired; (6) redesign of the CRI; and (7) conversion of the old scoring system to the new reader. Currently, programs are being written to replace the prototype program. (Author/RL)

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CLINICAL RATING PROJECT INTERIM REPORT NUMBER 3: BACKGROUND AND STATUS

Gerald J. Cason, Ph.D.
OED - UAMS

February 1981

A substantial and indispensable portion of the training of health professionals must be conducted in real or simulated practice settings i.e., must be "clinical instruction". Half* the College of Medicine's curriculum for medical students is clinically based. In CHRP the percentage varys from around 25 to around 75%*. In the College of Nursing the various programs cover about the same range*. Pharmacy's basic program has about 10-15%* of its' time devoted to clinical settings (* These percentages are my own rough estimates.)

Some of the major characteristics of clinical instruction that distinguish it from regular classroom instruction are as follows. It is performance ("doing") oriented rather than cognitively ("knowing") oriented. Student performance usually has to be evaluated using observation by a trained observer. Clinical performance tends to be complex and occur in complex settings. Adequate evaluation methods usually require reliance upon elaborate, structured check-lists and ratings scales. These techniques rapidly generate very, very large volumes of information on each student. A large volume of information must be captured to accurately reflect the complexity of the clinical setting and the performance of the student in it.

The present system for evaluating the clinical performance of students fails from information overload. One or both of two general kinds of things tend to happen in clinical courses. First, the necessary elaborate set of check-lists and rating scales may be developed and adapted in a program. For a short time these documents are filled out accurately and completely. Soon, however, the faculty discover that it is impossible to extract and summarize the useful information buried in the mass of data on each student. Manual tabulations and related methods are simply overwhelmed. There follows a general decline in the quality and quantity of information recorded. The second general type of thing which may happen is as follows. Elaborate systems of check-lists and rating scales may be never adopted because the faculty anticipates that it won't be able to extract useful information from them by manual methods. Either case tends to result in the evaluation of students being based upon global impressions inferred from isolated incidents and/or fragmentary information.

It is very important to note that this problem is intrinsic to clinical instruction and the evaluation of students' clinical performance. Furthermore, the problem is very nearly independent of other characteristics of the instructional system e.g., the quality of the staff, the quantity of the "clinical settings and experiences," the adequacy of the rating scales and/or check-lists used, and so forth.

The most cost-efficient resolution to the problem is the use of automatic data processing equipment (e.g., optical reader, computers) to process the

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wealth of data obtained through observation of students in the clinical setting. Once properly processed by computer, the result is a concise summary of information which may be used by both the faculty and the students. Because computer processing allows high speed aggregation and summarization of data, the judgements of many raters may be explicitly combined. This tends to reduce the chance of a single prejudicial rating determining or even overly influencing the evaluation of a student. The relative ease of processing and the usefulness of the summary reports tend to encourage faculty to collect more complete data and to record it more accurately. When combined with machine processing the increased quality and quantity of information recorded results in more timely and detailed feedback to students on their performance, it thereby improves the quality of the instruction by improving the quality of student evaluation.

PROGRESS TO DATE

Gerald Cason initiated a project to address this problem in clinical assessment in December 1978. His objective was to develop a "student clinical-performance information processing system" which could assist clinical faculty in all UAMS Colleges. For a number of pragmatic reasons the initial developmental work has been in the context of the College of Medicine's (COM's) Psychiatry and Medicine Junior Year Clerkships. He chose to start there because:

A. The COM was interested and had money available to pay for initial costs (e.g., prototype machine readable rating form).

B. A large number of students and clinical faculty are involved in the Junior Year Clerkships.

C. At that time, COM seemed to have more institutional "clout," i.e., projects it sponsored or endorsed seemed more likely to receive necessary support.

Nevertheless, from the very beginning his objective was to develop a system with sufficient flexability to serve all clinical faculty in all UAMS Colleges. To this end, he has maintained contact with faculty involved in clinical teaching in Pharmacy, Nursing and CHRP throughout the initial stages of development.

During the 1977-78 academic year, working in collaboration with the College of Medicine's Council on Academic Affair's (CAA) Committee on the Junior Year Clerkships (Chairmed by John Delk), Gerald Cason developed a 32 item clinical rating inventory. By March 1978 a preliminary mock-up of a machine-readable rating form using these 32 items had been developed. (See Attachment 1.) In May 1978, Delk's committee recommended to the CAA that the new forms be tried out experimentally on two clerkships. Drs. Bob Shannon (Psychiatry) and George Ackerman (Medicine) volunteered the use of the clerkships they directed.

Gerald Cason completed the design of a proto-type machine-readable (i.e., optically scanned) "UAMS Student Performance Rating Form" (Opscan Data-Reflex E1404) during the summer of 1978.

At College of Medicine expense it was produced in small quantity for a preliminary field trial. First delivery of the forms was in October 1978. (See Attachment 2.) The form was designed so that items could be over-printed on it locally. (See Attachment 3.) This would permit faculty in different colleges and courses to develop and/or adopt different items appropriate to their specific needs.

During the period December 1978 through February 1979 a rudimentary computer program (GPREP) for processing data obtained from the experimental clinical rating forms, with provisions for variable numbers of raters per student, was designed and implemented by Tom Lewis (Dept. of Computer Services, UAMS). This program translated data from the experimental forms into a format that could then be further processed by the UAMS test scoring program (OPSCAN). While the computer program was not satisfactory for a production (i.e., sustained, regular, large volume) operation because it required intervention and supervision by a highly skilled programmer for its use, this arrangement was sufficient for small sets of research data expected in the first trials of the experimental rating form.

Preliminary field trials of the experimental form and processing program were conducted in three College of Medicine (COM) courses during the Winter and Spring of 1978-79 academic year: Physical Diagnosis (Sophomore) and the Junior Year Clerkships in both Psychiatry and Medicine. In Physical Diagnosis the experimental form was used alone, there being no established standard rating form or procedure. In the Clerkships the experimental form was completed in parallel with the then currently approved rating form (See Attachment 4.) (All data on the then current form was manually processed.) In each Clerkship the forms were completed on approximately 60 students. Across the three courses during 1978-79 about 65 faculty members used the experimental form to rate 225 student's performance. The faculty's and clerkship directors experience with the experimental forms produced strongly favorable reactions. Also, the course director of Physical Diagnosis (Tom Monson, M.D.) was quite satisfied with the experimental form. The Psychiatry Clerkship director (Bob Shannon, M.D.) and the Medicine Clerkship director (George Ackerman, M.D.) led the COM's Council on Academic Affairs to recommend (May 1979) to Dean Tom Bruce that the experimental forms be adopted immediately for all Junior Year Clerkships. The Dean approved that recommendation.

Lack of fully appropriate computer programs and the conversion to a larger capacity optical scanner has delayed full implementation. A new optical scanner was required since our former machine (OPSCAN 017) could not handle the volume of work that this method of processing clinical performance data generates. In the College of Medicine Junior Year Clerkships alone, assuming only four forms per student per clerkship, about 6000 forms a year will be generated. The Colleges of Nursing, Pharmacy, and Health Related Professions have also indicated a strong need to use this system. In addition to scoring classroom test answer sheets and other uses, approximately 24,000 clinical rating forms per year may need to be processed by the optical reader if all four colleges were using the system.

June 7, 1979: The Academic Computer Users Committee (ACUC) recommended to Jerry Blackburn that a new highspeed optical reader be acquired as a first step toward implementing a "Computer Based Student Clinical Performance Rating Information Processing System." On June 25, 1979 ACUC submitted a formal memo to Jerry Blackburn requesting that the "Clinical Rating System" be made operational for general use not later than May 1980.

1979-80: The Psychiatry and Medicine Clerkships and Physical Diagnosis course used the experimental forms during the whole of the 1979-80 academic year. It should be noted that it was the Clerkship and course directors that wanted an immediate full scale implementation of the experimental rating form in all COM Junior Year Clerkships in Fall of 1979. The problem with such "rapid" implementation was finding the manpower to use the prototype computer program. Use of the machine-based data processing system for a full academic year in two clerkships provided a wealth of information useful for the design of the production (i.e., large volume) computer programs. In actual fact the prototype computer program (GPREP) was only run on the Medicine Clerkship and Physical Diagnosis data during 1979-80.

December 1979: A new highspeed optical reader was acquired (NCS-703).

Experience with prototype machine-readable rating form (See Attachment 1) during Spring 1979, and whole of 1979-80 of 1979-80 in Medicine and Psysical Diagnosis revealed a basic functional weakness. It required too much identifying information to be entered manually in data grids (e.g., subject name, subject number, date, page, rater number, etc.). Even during field trials where exceptionally careful monitoring was available, the correction of the errors in these data grids created an operational bottle-neck in the system.

A redesign of the prototype rating form would be required by the anticipated move to the new highspeed optical reader. Gerald Cason designed the new General Purpose Rating Form (See Attachment 6; NCS Transoptic B03-9542) during the 1979-80 academic year. It was designed to not only work on the new reader but also to reduce the problems associated with manual entry of large amounts of data in 2D grids. The new form will have all identifying information except "rater name" and "rater number" printed on it by the computer (line printer). The new system will print a specified number of "tailor made" forms for each student in a class. The rater number grid is the only grid that must be manually completed. This reduces the rater's task to entering only rating information. Attachment 7 is a photo copy of a "Dummy" form which was actually put through the computer's line printer. Attachment 8 gives a rough idea of the appearance of the rating form when the line printer has entered the scale definitions and rating items. Although not shown in Attachment 8, the computer also enters all the relevant student and course information. The computer tailor makes a specified number of the forms for each student in a course.

May 1980: Regular test scoring system converted from old optical reader (OPSCAN 017) to new reader (NCS-703) and new General Purpose Answer Sheet (Transoptic B03-7666; See Attachment 5). The clinical rating system was not made available in May 1980 as had been requested in June 1979. Indeed no significant work had been done on the necessary computer programs since the prototype program (GPREP) was written in February 1979. A formal Request for Computer Services (RCS), endorsed by an Assistant or Associate Dean in each UAMS college, was submitted to Jerry Blackburn requesting once again, that the Department of Computer Services develop a computer based clinical rating system and implement it by May 1981.

May 9, 1980: A memo from Gerald Cason to Tom Lewis on the "Clinical Rating System" outlined the history of the project and provided updated technical requirements for computer programs based on experience with prototype rating form (Attachment 3) and prototype program (GPREP). Informal agreement was reached by Gerald Cason and Tom Lewis, that while the prototype form would be available for Medicine and Psychiatry Clerkships'

use during 1980-81; it would be used only in an manual mode. That is, no machine processing of the rating forms would occur during 1980-81. This was necessary because the amount of Lewis' time absorbed in using the prototype rating-form processing program (GPREP) would leave no time to write new programs needed to implement a fully operational computer based clinical rating system. Also, the original prototype rating form could not be scanned by the new reader. Both Clerkship directors desired to continue using the prototype form even though automatic data processing service was to be suspended until the new programs were written i.e., until May 1981.

May-November 1980: Large blocks of Tom Lewis' time were devoted to the changeover from old to new reader for regular test scoring purposes.

September 1980: Because of various technical problems with the State Purchasing office the new rating forms (GPR-1, Attachment 6) for use with new reader were not obtained until September 1980. The initial supply of 40,000 forms was paid for out of College of Medicine funds.

FEBRUARY 1981: CURRENT STATUS

Tom Lewis and Gerald Cason have informally agreed that a basic (i.e., without ruffles and flourishes) clinical rating system must be made operational on or about May 1981 if at all feasible. Too much delay has already occurred. Clinical instructors deserve rating-data processing support analogous to that already provided to the classroom teacher in the form of computer test-scoring.

Most immediately Tom Lewis is writing the necessary programs to "slug print" data in the identification grids on the General Purpose Rating Form (See Attachment 7). As soon as this is done, operational checks can be made to assure that the optical reader can indeed correctly read information entered on the forms in this manner. Currently, under discussion with NCS is the possibility of exchanging the NCS-7003 for an even faster more sophisticated optical reader. Final testing of the slug printing would be done on whatever model of the optical reader is finally chosen as most suitable for our needs.

Over the course of the Spring (1981), programs which will replace GPREP that is, an operational version of a program to score rating-data will be designed, written, tested, and implemented by Tom Lewis. Revisions to the test scoring report programs will be made so that they may appropriately process and report clinical rating data. Gerald Cason will provide continuing consulting support to Tom Lewis as needed.

Attachments 9A through 9E illustrate the type of information the original prototype form (Attachment 3) and program (GPREP) produced for the Medicine Clerkship during Spring 1979 and the whole of academic year 1979-80. Improvements in reports will include more appropriate headings and labels, reporting the number of raters on whom the aggregated rating is based, etc.

INCIDENTALS

The General Purpose Rating Form is just that. While the initial use will be to record information on students clinical performance, the same basic form (with different items of course) will be used eventually to

record other types of rating data such as: student ratings of courses or course materials, student ratings of teachers, and perhaps even peer ratings.

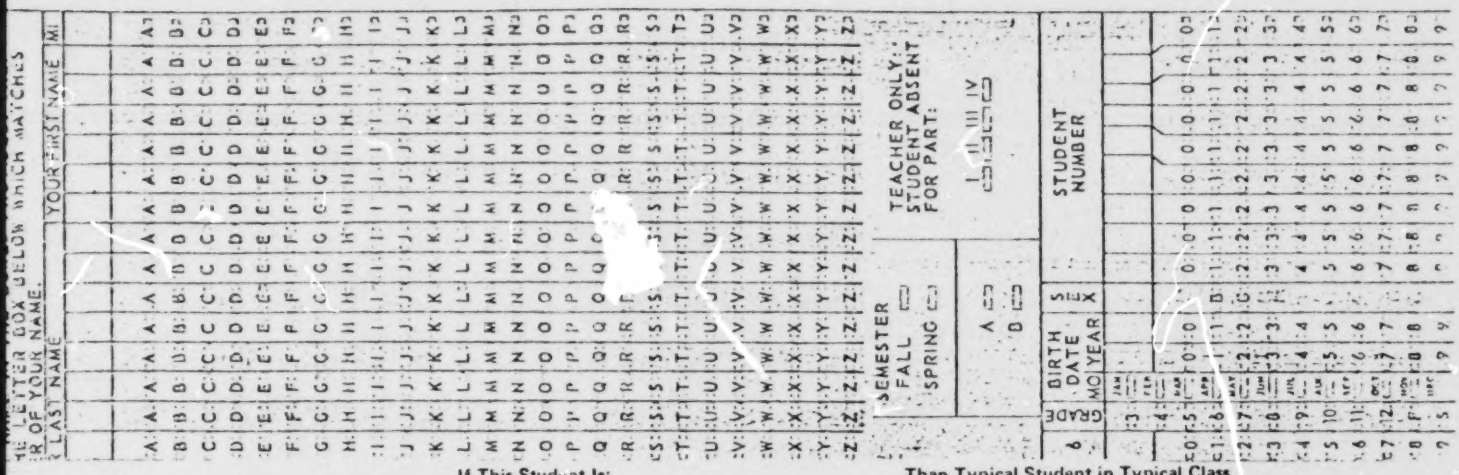
This project has resulted in a large number of administrative reports, working papers, and memos. It has also resulted in one technical paper (Cason and Cason, 1979) and an upcoming theoretical paper concerned with rater leniency when students are rated by only a sub-set of "available" raters (Cason and Cason, 1981). This current report has concentrated on administrative and logistic aspects of the project. Those interested in technical issues such as interrater reliability and rating validity are directed to the technical papers just cited.

REFERENCES

Cason, G. and Cason, C. Rating students clinical performance: Interim report number 2. Presented at the annual meeting of the Midsouth Educational Research Association (MSERA) Little Rock, Arkansas, November 1979.

Cason, G. and Cason, C. Some promising early results from a rudimentary latent-trait theory of performance rating. Paper presented at the annual meeting of the American Educational Research Association (AERA), Division I, Los Angeles California, April 1981.

ATTACHMENT 1



If This Student Is: Than Typical Student in Typical Class

MARK		
ABCDE	(5)	Substancially better (i.e., would be in top 10% of typical class)
ABCD	(4)	A little better (i.e., would be in top 30% but below top 10% of typical class)
ABC	(3)	No better or worse (i.e., would be in middle 40% of typical class)
AB	(2)	A little worse (i.e., would be in bottom 30% but above bottom 10% of typical class)
A	(1)	Substancially worse (i.e., would be in bottom 10% of typical class)

UAMS College _____ Course/Clerkship _____ Dept. _____ Block/Rotation _____ Rater _____ Date _____

I. COLLEGE WIDE ITEMS

A. GENERAL COGNITIVE SKILLS

1. Knowledge of facts, rules, principles . . . . . A B C D E
2. Understanding of facts, rules, principles . . . . . A B C D E
3. Application of specified rules principles . . . . . A B C D E
4. Problem solving: select rules, w/o assistance . . . . . A B C D E

B. COMMUNICATION SKILLS WITH:

5. Peers . . . . . A B C D E
6. Patients . . . . . A B C D E
7. Support Personnel (RN,Tech/s, etc.) . . . . . A B C D E
8. Faculty . . . . . A B C D E
9. Non-faculty House Staff (M.D.'s) . . . . . A B C D E

C. ATTITUDE TOWARD

10. Peers . . . . . A B C D E
11. Patients . . . . . A B C D E
12. Support Personnel . . . . . A B C D E
13. Faculty . . . . . A B C D E
14. Non-faculty House Staff . . . . . A B C D E
15. Assigned duties . . . . . A B C D E
16. Implicit responsibilities . . . . . A B C D E

D. COLLECT, RECORD, INTERPRET RELEVANT INFO

17. Conducting History . . . . . A B C D E
18. Recording History . . . . . A B C D E
19. Interpreting History . . . . . A B C D E
20. Conducting Physical Exam (PE) . . . . . A B C D E
21. Recording PE . . . . . A B C D E
22. Interpreting PE . . . . . A B C D E
23. Ordering appropriate studies (lab, x-ray, etc.) . . . . A B C D E
24. Interpreting results of studies . . . . . A B C D E
25. Requesting appropriate consults . . . . . A B C D E
26. Interpreting results of consults . . . . . A B C D E
27. Synthesizing problem (i.e. formulating diagnosis) . . . A B C D E

E. THERAPEUTIC DESIGN/PROCEDURES

28. Selecting/formulating treatment regimens . . . . . A B C D E
29. Manual Skills & Executing Procedures . . . . . A B C D E
30. Follow-up, evaluation, and revision of regimines . . . A B C D E

F.31. PERFORMANCE UNDER STRESS . . . . . A B C D E

G.32. POTENTIAL FOR HOUSE OFFICER TRAINING . . . . . A B C D E

II. DEPARTMENT/COURSE WIDE ITEMS

33. . . . . A B C D E
34. . . . . A B C D E
35. . . . . A B C D E

III. ROTATION/BLOCK SPECIFIC ITEMS

36. . . . . A B C D E
37. . . . . A B C D E
38. . . . . A B C D E
39. . . . . A B C D E
40. . . . . A B C D E

DS 1120-1

A-2

University of Arkansas for Medical Sciences

PRINT IN THE BOXES PROVIDED THEN BLACKEN BOX BELOW WHICH MATCHES

STUDENT'S LAST NAME | FI | MI | BATCH NO | RATER | DATE | STUDENT NUMBER

USE SCALE AT RIGHT
USE SOFT PENCIL
MAKE NO MORE THAN ONE MARK PER ITEM
ERASE COMPLETELY TO CORRECT

5 = Substantially better (i.e., would be in top 10% of typical class)
4 = A little better (i.e., would be in top 25% but below top 10% of typical class)
3 = No better or worse (i.e., would be in middle 50% of typical class)
2 = A little worse (i.e., would be in bottom 25% but above bottom 10% of typical class)
1 = Substantially worse (i.e., would be in bottom 10% of typical class)

Than Typical Student in Typical Class

BLANK = No Credit (zero points) X = Not Applicable Y = Not Rated Because Not Observed

| | | |

RATER'S COMMENTS

PLEASE ENTER ANY COMMENTS YOU FEEL ARE RELEVANT TO THE EVALUATION OF STUDENT WHOSE RATINGS YOU ENTERED ON OBVERSE OF THIS FORM. COMMENTS ON THIS STUDENT'S SPECIFIC STRENGTHS AND OR WEAKNESSES AND DOCUMENTATION FOR RATINGS ASSIGNED ARE MOST USEFUL.

RATINGS FOR EACH ITEM ON OBVERSE MUST BE ENTERED. COMMENTS ARE ONLY A SUPPLEMENT NOT A SUBSTITUTE FOR RATINGS.

IF NO COMMENTS, CHECK HERE ☐

X _____
RATER'S SIGNATURE

_____
DATE

_____
RATER'S NAME TYPED OR PRINTED

A-3

University of Arkansas for Medical Sciences

Director: G. Ackerman, MD

PRINT IN THE BOXES PROVIDED THEN BLACKEN BOX BELOW WHICH MATCHES

BATCH NO | RATER | DATE | STUDENT NUMBER

STUDENT'S LAST NAME | FI | MI

USE SCALE AT RIGHT
USE SOFT PENCIL
MAKE NO MORE THAN ONE MARK PER ITEM
ERASE COMPLETELY TO CORRECT

5 = Substantially better (i.e., would be in top 10% of typical class)
4 = A little better (i.e., would be in top 25% but below top 10% of typical class)
3 = No better or worse (i.e., would be in middle 50% of typical class)
2 = A little worse (i.e., would be in bottom 25% but above bottom 10% of typical class)
1 = Substantially worse (i.e., would be in bottom 10% of typical class)

} Than Typical Student in Typical Class

XXXXXXXXXXXXXXXXXX X = Not Applicable Y = Not Rated Because Not Observed = BLANK

GENERAL COGNITIVE SKILLS: Knowing facts, rules, etc.	1	5	4	3	2	1	X	Y	Recording Physical Exam	21	5	4	3	2	1	X	Y
Understanding facts, rules	2	5	4	3	2	1	X	Y	Requesting Studies/Tests	22	5	4	3	2	1	X	Y
Applying facts, rules, etc.	3	5	4	3	2	1	X	Y	Requesting Consults	23	5	4	3	2	1	X	Y
Problem Solving: analysis synthesis, evaluation	4	5	4	3	2	1	X	Y	Interpreting: History Results	24	5	4	3	2	1	X	Y
COMMUNICATION (with): Peers (Jr Med Students)	5	5	4	3	2	1	X	Y	Physical Exam	25	5	4	3	2	1	X	Y
Patients	6	5	4	3	2	1	X	Y	Studies/Tests	26	5	4	3	2	1	X	Y
Faculty	7	5	4	3	2	1	X	Y	Consult Results	27	5	4	3	2	1	X	Y
Residents	8	5	4	3	2	1	X	Y	Synthesizing Problem/ Formulating Diagnosis	28	5	4	3	2	1	X	Y
Clinical Team: RNs, Techs, etc	9	5	4	3	2	1	X	Y	*THERAPEUTIC DESIGN/PROCEDURES:* Selecting/formulating treatment	29	5	4	3	2	1	X	Y
ATTITUDE (toward): Peers (Jr Med Students)	10	5	4	3	2	1	X	Y	Manual Skills & Executing procedures.....	30	5	4	3	2	1	X	Y
Patients	11	5	4	3	2	1	X	Y	Follow-up, evaluation, revision of treatment regimen	31	5	4	3	2	1	X	Y
Faculty	12	5	4	3	2	1	X	Y	*PERFORMANCE UNDER STRESS*	32	5	4	3	2	1	X	Y
Residents	13	5	4	3	2	1	X	Y	*POTENTIAL FOR ADVANCED TRAINING*	33	5	4	3	2	1	X	Y
Clinical Team: RNs, Techs, etc	14	5	4	3	2	1	X	Y	*PROVISIONAL OVERALL GRADE* A=5 / B=4 / C=3 / D=2 / F=1	34	5	4	3	2	1	X	Y
Assigned duties	15	5	4	3	2	1	X	Y		35	5	4	3	2	1	X	Y
Implicit responsibilities	16	5	4	3	2	1	X	Y		36	5	4	3	2	1	X	Y
Being corrected	17	5	4	3	2	1	X	Y		37	5	4	3	2	1	X	Y
BASIC PATIENT "WORK-UP" Conducting History	18	5	4	3	2	1	X	Y		38	5	4	3	2	1	X	Y
Conducting Physical Exam	19	5	4	3	2	1	X	Y		39	5	4	3	2	1	X	Y
Recording History	20	5	4	3	2	1	X	Y		40	5	4	3	2	1	X	Y

XXXXX CLERKSHIP/ROTATION XXXX Jr Yr Medicine at MCH/VAH CHIEF INSTRUCTOR

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RATINGS FOR EACH ITEM ON OBVERSE MUST BE ENTERED. COMMENTS ARE ONLY A SUPPLEMENT NOT A SUBSTITUTE FOR RATINGS.

PROVISIONAL OVERALL GRADE: In marking item 34 on the obverse, use the definitions for 5, 4, 3, 2, and 1 given below. For all other items, use the definitions provided above the items on the obverse of this form.

5 = A = OUTSTANDING overall peformance for Med. School Jr.
4 = B = ABOVE AVERAGE " " for Med. School Jr.
3 = C = AVERAGE " " for Med. School Jr.
2 = D = BELOW AVERAGE " " for Med. School Jr.
1 = F = UNSATISFACTORY " " for Med. School Jr.

Write provisional grade ("+" or "-" if desired) on line below. Mark closest corresponding response to item 34 on obverse of this form.

Provisional Grade _____

IF NO COMMENTS, CHECK HERE ☐ X _____
RATER'S SIGNATURE

_____ _____
DATE RATER'S NAME TYPED OR PRINTED

A-4

COLLEGE OF MEDICINE

UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

EVALUATION OF PERFORMANCE IN JUNIOR CLERKSHIP

Student's Name _____ **Provisional Grade** _____

Clerkship _____ **Weeks Credit** _____ **Date Rotation Completed** _____

	Insufficient Observation	Outstanding	Above Average	Average	Below Average	Unsatisfactory
SKILLS						
History taking	☐	☐	☐	☐	☐	☐
Physical examination	☐	☐	☐	☐	☐	☐
Manual techniques	☐	☐	☐	☐	☐	☐
Problem solving	☐	☐	☐	☐	☐	☐
Therapeutic design	☐	☐	☐	☐	☐	☐
Ability to apply knowledge	☐	☐	☐	☐	☐	☐
BEHAVIOR AS STUDENT PHYSICIAN						
In relation to patients	☐	☐	☐	☐	☐	☐
In relation to supportive personnel	☐	☐	☐	☐	☐	☐
In relation to peers	☐	☐	☐	☐	☐	☐
In relation to faculty	☐	☐	☐	☐	☐	☐
Attendance, participation	☐	☐	☐	☐	☐	☐
Responsibility	☐	☐	☐	☐	☐	☐
Appearance	☐	☐	☐	☐	☐	☐
Performance under stress	☐	☐	☐	☐	☐	☐
Initiative	☐	☐	☐	☐	☐	☐
COGNITIVE COMPETENCE IN ROTATION	☐	☐	☐	☐	☐	☐
POTENTIAL FOR HOUSE OFFICER TRAINING	☐	☐	☐	☐	☐	☐

COMMENTS
(Please Type)

I have read and have had an opportunity to discuss this evaluation with the preparator. Also I understand that I may submit a written explanation or refutation to the Dean's office.

Signed: _____

This report is a composite rating of _____ person(s) prepared by:

Typed: _____

Signed: _____

Adopted: 1 May 1975

White Copy Dean's Office, Pink Copy Student's Copy, Yellow Copy Dept's Copy

EXPLANATION OF EVALUATION SHEET

This sheet is used to record faculty evaluations of a student's skills and behavior at the conclusion of a clinical rotation. The "grade" recorded on this sheet is only provisional and subject to revision after the final written examination in that subject.

Unsatisfactory –the student has not demonstrated an acceptable level of performance. Such an evaluation is equivalent to an "F" or failure.

Below Average –the performance level is satisfactory, at least minimally adequate, but is less than that demonstrated by the majority of students at the same stage of development. This corresponds to a "D" grade, and is passing.

Average –this designation is marked if the skill or behavior is at the level demonstrated by most students, and corresponds to a "C" grade.

Above Average –for those students who demonstrate skills or behavior somewhat better than the average medical student, corresponds to the "B" letter grade.

Outstanding –indicates that the student's skill or behavior is clearly superior to that of the majority of students. It corresponds to an "A" grade and is, therefore, applicable in only a few instances.

Insufficient Observation –the evaluator(s) did not have an opportunity to observe and evaluate the particular skill or behavior. A check in this box means only this, and casts no reflection on the student.

Any student marked "Unsatisfactory" in any one or more categories or whose cognitive achievement is inadequate, has not achieved satisfactorily in the rotation as a whole. The record of such a student shall be reviewed by the appropriate Promotions Committee to consider the possible success of remedial measures.

In the space provided under "COMMENTS", clarification or amplification can be made. The items listed under SKILLS and BEHAVIOR are rather general, and more specific reference can be made in the comment section. Regardless, any skill or behavior or cognitive competence checked "Outstanding" or "Unsatisfactory" must be described. The content of this section is very valuable to the Dean's office in composing the letter of recommendation for postdoctoral training, or if necessary in instituting any disciplinary or remedial action, to document the basis for such action.

Any intentional irresponsibility or unethical behavior on the part of a student should be reported immediately to the Dean's office on this form to initiate further consideration and action.

Certain of the items under SKILLS and BEHAVIOR can be amplified as follows:

Ability to apply knowledge –Knowledge in this sense refers to that which the student should be expected to carry forward from the basic science years, and that which should be obtained from the clinical experiences as well as from lectures, texts, conferences, and current literature in the discipline of the clerkship.

Behavior in relation to patients –How well does the students exhibit tact, finesse, and compassion toward patients? Is there concern for the patient's sense of well being, and for the patient's family? Does the student meet only the minimum in this regard, or take extra time and effort in the patient's behalf?

Behavior in relation to faculty –How well does the student accept constructive criticism? Once understanding directions and procedures, how well does the student conform to them? Is the student truly seeking competence or simply ingratiation?

Responsibility –Does the student become informed promptly about the patient, and complete the necessary work-up expeditiously to facilitate the patient's progress? Does the student do all possible for the patient without exceeding capability or prerogatives? Does the student respond with reasonable promptness to attend patients when needed? Does the student leave the ward without notifying appropriate individuals of the fact, and where he/she can be reached?

A-5

NCS Trans-Optic® 303-7666-321

COURSE

CLASS YEAR

DATE

INSTRUCTOR

STUDENT

EXAMPLE

1 (T) (F) (C) (D) (E) WRONG

2 (T) (F) (C) (D) (E) WRONG

3 (T) (F) (C) (D) (E) WRONG

4 (T) (F) (C) (D) (E) WRONG

5 (T) (F) (C) (D) (E) CORRECT

IMPORTANT DIRECTIONS FOR MARKING ANSWERS

- USE BLACK LEAD PENCIL ONLY (No. 2 1/2 OR SOFTER).
- MAKE HEAVY BLACK MARKS THAT FILL THE CIRCLE COMPLETELY.
- ERASE CLEANLY ANY ANSWER YOU WISH TO CHANGE.
- MAKE NO STRAY MARKS ON THIS ANSWER SHEET.

UNIVERSITY OF ARKANSAS MEDICAL SCIENCES CAMPUS

GENERAL PURPOSE ANSWER SHEET

1 (T) (F) (C) (D) (E)	24 (T) (F) (C) (D) (E)	47 (T) (F) (C) (D) (E)	70 (T) (F) (C) (D) (E)	93 (T) (F) (C) (D) (E)	116 (T) (F) (C) (D) (E)
2 (T) (F) (C) (D) (E)	25 (T) (F) (C) (D) (E)	48 (T) (F) (C) (D) (E)	71 (T) (F) (C) (D) (E)	94 (T) (F) (C) (D) (E)	117 (T) (F) (C) (D) (E)
3 (T) (F) (C) (D) (E)	26 (T) (F) (C) (D) (E)	49 (T) (F) (C) (D) (E)	72 (T) (F) (C) (D) (E)	95 (T) (F) (C) (D) (E)	118 (T) (F) (C) (D) (E)
4 (T) (F) (C) (D) (E)	27 (T) (F) (C) (D) (E)	50 (T) (F) (C) (D) (E)	73 (T) (F) (C) (D) (E)	96 (T) (F) (C) (D) (E)	119 (T) (F) (C) (D) (E)
5 (T) (F) (C) (D) (E)	28 (T) (F) (C) (D) (E)	51 (T) (F) (C) (D) (E)	74 (T) (F) (C) (D) (E)	97 (T) (F) (C) (D) (E)	120 (T) (F) (C) (D) (E)
6 (T) (F) (C) (D) (E)	29 (T) (F) (C) (D) (E)	52 (T) (F) (C) (D) (E)	75 (T) (F) (C) (D) (E)	98 (T) (F) (C) (D) (E)	121 (T) (F) (C) (D) (E)
(T) (F) (C) (D) (E)	30 (T) (F) (C) (D) (E)	53 (T) (F) (C) (D) (E)	76 (T) (F) (C) (D) (E)	99 (T) (F) (C) (D) (E)	122 (T) (F) (C) (D) (E)
8 (T) (F) (C) (D) (E)	31 (T) (F) (C) (D) (E)	54 (T) (F) (C) (D) (E)	77 (T) (F) (C) (D) (E)	100 (T) (F) (C) (D) (E)	23 (T) (F) (C) (D) (E)
9 (T) (F) (C) (D) (E)	32 (T) (F) (C) (D) (E)	55 (T) (F) (C) (D) (E)	78 (T) (F) (C) (D) (E)	101 (T) (F) (C) (D) (E)	124 (T) (F) (C) (D) (E)
10 (T) (F) (C) (D) (E)	33 (T) (F) (C) (D) (E)	56 (T) (F) (C) (D) (E)	79 (T) (F) (C) (D) (E)	102 (T) (F) (C) (D) (E)	125 (T) (F) (C) (D) (E)
11 (T) (F) (C) (D) (E)	34 (T) (F) (C) (D) (E)	57 (T) (F) (C) (D) (E)	80 (T) (F) (C) (D) (E)	103 (T) (F) (C) (D) (E)	126 (T) (F) (C) (D) (E)
12 (T) (F) (C) (D) (E)	35 (T) (F) (C) (D) (E)	58 (T) (F) (C) (D) (E)	81 (T) (F) (C) (D) (E)	104 (T) (F) (C) (D) (E)	127 (T) (F) (C) (D) (E)
13 (T) (F) (C) (D) (E)	36 (T) (F) (C) (D) (E)	59 (T) (F) (C) (D) (E)	82 (T) (F) (C) (D) (E)	105 (T) (F) (C) (D) (E)	128 (T) (F) (C) (D) (E)
14 (T) (F) (C) (D) (E)	37 (T) (F) (C) (D) (E)	60 (T) (F) (C) (D) (E)	83 (T) (F) (C) (D) (E)	106 (T) (F) (C) (D) (E)	129 (T) (F) (C) (D) (E)
15 (T) (F) (C) (D) (E)	38 (T) (F) (C) (D) (E)	61 (T) (F) (C) (D) (E)	84 (T) (F) (C) (D) (E)	107 (T) (F) (C) (D) (E)	130 (T) (F) (C) (D) (E)
16 (T) (F) (C) (D) (E)	39 (T) (F) (C) (D) (E)	62 (T) (F) (C) (D) (E)	85 (T) (F) (C) (D) (E)	108 (T) (F) (C) (D) (E)	131 (T) (F) (C) (D) (E)
17 (T) (F) (C) (D) (E)	40 (T) (F) (C) (D) (E)	63 (T) (F) (C) (D) (E)	86 (T) (F) (C) (D) (E)	109 (T) (F) (C) (D) (E)	132 (T) (F) (C) (D) (E)
18 (T) (F) (C) (D) (E)	41 (T) (F) (C) (D) (E)	64 (T) (F) (C) (D) (E)	87 (T) (F) (C) (D) (E)	110 (T) (F) (C) (D) (E)	133 (T) (F) (C) (D) (E)
19 (T) (F) (C) (D) (E)	42 (T) (F) (C) (D) (E)	65 (T) (F) (C) (D) (E)	88 (T) (F) (C) (D) (E)	111 (T) (F) (C) (D) (E)	134 (T) (F) (C) (D) (E)
20 (T) (F) (C) (D) (E)	43 (T) (F) (C) (D) (E)	66 (T) (F) (C) (D) (E)	89 (T) (F) (C) (D) (E)	112 (T) (F) (C) (D) (E)	135 (T) (F) (C) (D) (E)
21 (T) (F) (C) (D) (E)	44 (T) (F) (C) (D) (E)	67 (T) (F) (C) (D) (E)	90 (T) (F) (C) (D) (E)	113 (T) (F) (C) (D) (E)	136 (T) (F) (C) (D) (E)
22 (T) (F) (C) (D) (E)	45 (T) (F) (C) (D) (E)	68 (T) (F) (C) (D) (E)	91 (T) (F) (C) (D) (E)	114 (T) (F) (C) (D) (E)	137 (T) (F) (C) (D) (E)
23 (T) (F) (C) (D) (E)	46 (T) (F) (C) (D) (E)	69 (T) (F) (C) (D) (E)	92 (T) (F) (C) (D) (E)	115 (T) (F) (C) (D) (E)	138 (T) (F) (C) (D) (E)

DO NOT WRITE IN THIS SHADED AREA

COURSE NUMBER

STUDENT NUMBER

M
F

SUBJECT NAME (PERSON RATED):

SUBJECT TYPE (OR RANK):

ACTIVITY OR TOPIC RATED:

SUBJECT IDENTIFICATION

INITIALS (MARK EMPTY CIRCLE IF NO INITIAL)

FIRST

MIDDLE

LAST

PLEASE:

SEE INSTRUCTIONS ON BACK BEFORE STARTING. UNLESS OTHERWISE DIRECTED, ALL I.D. GRIDS TO RIGHT MUST BE COMPLETE BEFORE SUBMITTING FORM FOR MACHINE REALING & SCORING.

USE SOFT, BLACK PENCIL. ONE MARK PER ITEM.

USE POINT SCALE BELOW.

SUBJECT I.D. NUMBER

COURSE CLERKSHIP OR UNIT NUMBER

NAME:

CHIEF INSTRUCTOR, COORDINATOR, OR DIRECTOR

RATER NUMBER

NAME:

TYPE OR RANK:

MARKING EXAMPLE

OK

WRONG

WRONG

WRONG

WRONG

WRONG

OK

ALIGNMENT CHECK

NOT APPLICABLE

NO OPINION

A-6

DO NOT FOLD'S WHICH CROSS EDGE BELOW

TOTALS (LINE PRINTER ENTRY ONLY) P.I.G. RAW= T= (RANK=

STAPLE PERMITTED (AFTER MACHINE READING AND SCORING COMPLETED) ABOVE DOUBLE LINE

MARKING RATINGS

- All items must be marked
- Mark NO OPINION if you have insufficient data
- Make only one mark per item
- Leave all responses blank on blank item lines
- Erase cleanly to correct
- Use #2 or softer, black lead pencil

X Use no ink, ball points, felt tips, nor grease pencils
X No marks outside specified area
X Use no "White out" correction fluid
X Multiple marks and omits (no marks) scored as if NO OPINION was marked. However, both are ambiguous and should be avoided.

ENTERING COMMENTS

- Write all comments inside box below or on separate sheets of 8 X11 paper.
- Comments are a supplement to not a substitute for ratings.
- Especially useful comments include:
  - Subject's specific strengths and specific weaknesses
  - Documentation for all ratings of either 1 or 7
  - Typical or Critical incidents
- While ratings must be in pencil, comments may be in pencil, pen, or typed

PASS OR CREDIT
A+
A
A-
B+
B
B-
C+
C
D+
D
D-
FAIL OR NO CREDIT
INCOMPLETE

PROVISIONAL OVERALL LETTER GRADE

Leave blank unless specifically directed to enter a provisional letter grade. If used, mark one and only one option. Use official definitions of letters.

SPECIAL CODES

Leave blank unless otherwise instructed.

Occasions, Locations, etc.

WRITTEN COMMENTS?

PLEASE DO NOT FOLD. USE 10X13 OR LARGER ENVELOPE TO SEND.

UNIVERSITY OF ARKANSAS

MEDICAL SCIENCES CAMPUS

GPR-1(b)

PLEASE DO NOT WRITE OUTSIDE OF THIS BOX

RATER COMMENTS REGARDING: _____
(Subject or Person Rated)

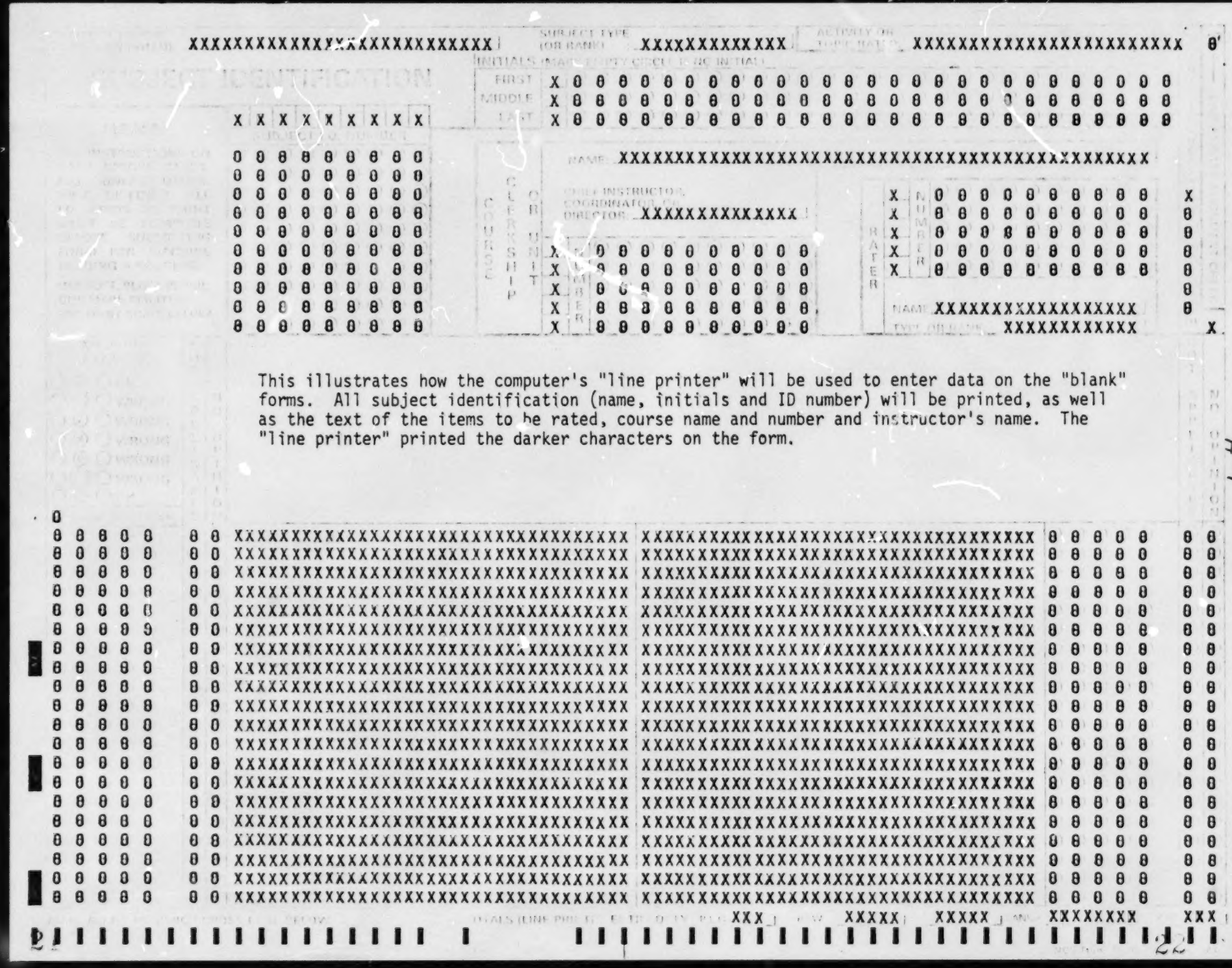
Please check correctness of info in RATER ID grid. Please mark "Y" or "N" in WRITTEN COMMENTS box.

Date Completed | Rater's Signature (Whether comments entered or not) | Location or other info

PLEASE DO NOT WRITE OUTSIDE OF THIS BOX

PLEASE PREVENT DAMAGE TO THESE EDGES AND THIS CORNER

Form design and rating system development by Gerald J. Cason, Ph.D., Office of Educational Development, UAMSC for use with the UAMSC Optical Test Scoring (OTS) and Performance Rating electronic data processing system. May 1980


This illustrates how the computer's "line printer" will be used to enter data on the "blank" forms. All subject identification (name, initials and ID number) will be printed, as well as the text of the items to be rated, course name and number and instructor's name. The "line printer" printed the darker characters on the form.

SUBJECT (NAME OR CODE RATED): _____ SUBJECT TYPE (OR RANK): Student ACTIVITY OR TOPIC RATED: Clinical/Ward Performance

SUBJECT IDENTIFICATION

INITIALS (BLANK IF ONLY ONE OF NO INITIAL)

FIRST _____ MIDDLE _____ LAST _____

- PLEASE:

SEE INSTRUCTIONS ON BACK BEFORE STARTING. UNLESS OTHERWISE DIRECTED, ALL I.D. GRIDS TO RIGHT MUST BE COMPLETE BEFORE SUBMITTING FORM FOR MACHINE READING & SCORING.

USE SOFT, BLACK PENCIL. ONE MARK PER ITEM. USE POINT SCALE BELOW.

SUBJECT I.D. NUMBER

COURSE CLERKSHIP OR UNIT NUMBER

NAME: Dept. of Medicine Jr. Yr. Clerkship

CHIEF INSTRUCTOR, COORDINATOR, OR DIRECTOR: G. Ackerman, MD

RATER NUMBER

NAME: _____

TYPE OR RANK: _____

USE FOR ASSESSMENT CHECK 1 OF 1

MARKING EXAMPLE

- ● OK
- ⊘ WRONG
- ⊘ WRONG
- ⊗ WRONG
- ⓪ WRONG
- ◯ WRONG
- ● OK

ALIGNMENT CHECK

5 = Substantially better than typical student in typical class (top 10%)

4 = A little better than typical student in typical class (top 25%, but not top 10%)

3 = GOOD: Equal of typical student in typical class (middle 50%)

2 = A little worse than typical student in typical class (bottom 25%; not bottom 10%)

1 = Substantially worse than typical student in typical class (bottom 10%)

	NOT APPLICABLE	NO OPINION
GENERAL COGNITIVE SKILLS		
Knowing facts,rules,procedures,etc	○	○
Understanding facts,rules,proceedur	○	○
Applying facts,rules,procedures	○	○
Problem Solving:anal,synth,eval	○	○
COMMUNICATION SKILLS (with)		
Peers (Jr Med Students)	○	○
Patients	○	○
Faculty	○	○
Residents	○	○
Clinical Team:RNs,Techs,Aides,etc	○	○
ATTITUDES (toward)		
Peers (Jr Med Students)	○	○
Patients	○	○
Faculty	○	○
Residents	○	○
Clinical Team:RNs,Techs,Aides,etc	○	○
Assigned duties	○	○
Implicit responsibilities	○	○
Being corrected	○	○

	1	2	3	4	5	NOT APPLICABLE	NO OPINION
BASIC PATIENT 'WORK-UP'							
Conducting:History/Interview	○	○	○	○	○	○	○
Physical Exam	○	○	○	○	○	○	○
Recording:History/Interview	○	○	○	○	○	○	○
Physical Exam	○	○	○	○	○	○	○
Requesting:Studies/Tests	○	○	○	○	○	○	○
Consults/Assistance	○	○	○	○	○	○	○
Interpreting:History/Interview	○	○	○	○	○	○	○
Physical Exam	○	○	○	○	○	○	○
Studies/Tests	○	○	○	○	○	○	○
Consults/Suggestions	○	○	○	○	○	○	○
Synthesizing Problem/Formulating Dx	○	○	○	○	○	○	○
THERAPEUTIC DESIGN & PROCEDURES							
Selecting/Formulating treatment	○	○	○	○	○	○	○
Manual Skills/Executing procedures	○	○	○	○	○	○	○
Follow-up,eval,revis of regimen	○	○	○	○	○	○	○
PERFORMANCE UNDER STRESS	○	○	○	○	○	○	○
POTENTIAL FOR ADVANCED TRAINING	○	○	○	○	○	○	○
(Enter Provisional Grade on back)	○	○	○	○	○	○	○

A-8

MAKE NO FOLDS WHICH CROSS EDGE BELOW.

TOTALS (LINE PRINTER ENTRY ONLY) P.G. _____ RAW= _____ %= _____ RANK= _____

9a

G. Cason
OED UAMSC

"STUDENT LETTER"

[redacted] [redacted] Student#00977001[redacted] 21-[redacted]-80 12:51

Report for test# 1:JR YR MED 79-80: COHORT [redacted]

Your score was 133.00 points out of a possible 170.00 = 78.24%
The class average was 126.83 points = 74.61%
This ranks you in the 65th percentile in your class.
Your Z score = 537.

Test breakdown by categories:

Category	Your Score	Class Average	Your% Score	Class Average
1 COGNITIVE SKILLS	17.00	14.94	85.00	74.71
2 COMMUNICATION	17.00	18.77	68.00	75.09
3 ATTITUDE	30.00	30.63	75.00	76.57
4 PATIENT WORK-UP	44.00	40.03	80.00	72.78
5 THERA. DESIGN/PROCEDURES	12.00	11.20	80.00	74.67
6 PERF. UNDER STRESS	4.00	3.63	80.00	72.57
7 POTENT. FOR ADV. TRNG.	4.00	3.74	80.00	74.86
8 PROVISIONAL GRADE	5.00	3.89	100.00	77.71
All	133.00	126.83	78.24	74.61

student name, last digit of ID #, date and cohort # deleted to protect privacy of data.

G. Cason
OED UAMSC

DEPARTMENT REPORT — Prepared on 21-Mar-80 at 12:51 — Page 1

Test: 1-JR YR MED 79-80: COHORT [redacted]
Instructor: Dr. Ackermann
Course: Medicine Jr. Yr. Clerkship

College: Medicine
Slot: Phone: 661-5160
Students present: 35 Absent: 0 Withdrawn: 0

STUDENT	SCORE TYPE	Total	1	2	3	4	5	6	7	8
Name: A[redacted] ID: 009770001	Raw Points	133.00	17.0	17.0	30.0	44.0	12.0	4.0	4.0	5.0
	Percent Correct	78.24	85.0	68.0	75.0	80.0	80.0	80.0	80.0	100.0
	Rank in Class	10	5	24	23	6	7	4	5	1
	Percentile	65	85	22	25	74	54	42	37	85
	Z	537	588	428	484	565	550	554	539	677
Name: [redacted] ID: 009770191	Raw Points	120.00	12.0	20.0	32.0	36.0	11.0	3.0	3.0	3.0
	Percent Correct	70.59	60.0	80.0	80.0	65.5	73.3	60.0	60.0	60.0
	Rank in Class	23	26	6	7	24	17	21	23	27
	Percentile	34	0	54	48	31	34	2	0	0
	Z	459	375	550	534	434	488	409	387	360
Name: [redacted] ID: 009740271	Raw Points	108.00	12.0	17.0	26.0	35.0	9.0	3.0	3.0	3.0
	Percent Correct	63.53	60.0	68.0	65.0	63.6	60.0	60.0	60.0	60.0
	Rank in Class	30	26	24	29	25	29	21	23	27
	Percentile	14	0	22	17	22	0	2	0	0
	Z	367	375	428	384	418	363	409	387	360
Name: [redacted] ID: 009760161	Raw Points	129.00	16.0	20.0	32.0	37.0	12.0	4.0	4.0	4.0
	Percent Correct	75.88	80.0	80.0	80.0	67.3	80.0	80.0	80.0	80.0
	Rank in Class	18	6	6	7	22	7	4	5	6
	Percentile	48	45	54	48	34	54	42	37	25
	Z	513	545	550	534	451	550	554	539	518
Name: [redacted] ID: 009770001	Raw Points	125.00	14.0	19.0	30.0	42.0	10.0	3.0	3.0	4.0
	Percent Correct	73.53	70.0	76.0	75.0	76.4	66.7	60.0	60.0	80.0
	Rank in Class	21	22	17	23	11	24	21	23	6
	Percentile	40	31	40	25	60	20	2	0	25
	Z	489	460	509	484	532	425	409	387	518
Name: [redacted] ID: 009770061	Raw Points	135.00	16.0	20.0	32.0	44.0	12.0	3.0	4.0	4.0
	Percent Correct	79.41	80.0	80.0	80.0	80.0	80.0	60.0	80.0	80.0
	Rank in Class	8	6	6	7	6	7	21	5	6
	Percentile	74	45	54	48	74	54	2	37	25
	Z	549	545	550	534	565	550	409	539	518
Name: [redacted] ID: 009770211	Raw Points	102.00	12.0	15.0	24.0	33.0	9.0	3.0	3.0	3.0
	Percent Correct	60.00	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
	Rank in Class	33	26	32	32	30	29	21	23	27
	Percentile	0	0	0	0	0	0	2	0	0
	Z	351	375	346	333	385	363	409	387	360
Name: [redacted] ID: 009760181	Raw Points	118.00	15.0	18.0	30.0	34.0	11.0	3.0	3.0	4.0
	Percent Correct	69.41	75.0	72.0	75.0	61.8	73.3	60.0	60.0	80.0
	Rank in Class	25	20	22	23	26	17	21	23	6
	Percentile	26	40	34	25	17	34	2	0	25
	Z	447	502	469	484	401	488	409	387	518

"STUDENT LETTER" for this student

Name & last digit of ID deleted to protect privacy.

PHOTO REDUCED

96

26

27

MEDICINE 79-80 [redacted] COHORT

G. CASON OES UAMSL

POSTING REPORT

Prepared on 21-[redacted]-80 at 12:57 Page 1

Test: 1-JR YR MED 79-80: COHORT [redacted]
Instructor: Dr. Ackermann
Course: Medicine Jr. Yr. Clerkship

College: Medicine
Slot: Phone: 661-5160
Students present: 35 Absent: 0 Withdrawn: 0

STUDENT NUMBER	RAW SCORE	OMIT	PERCENT SCORE	PERCENTILE SCORE	Z SCORE	PERCENT SCORES BY CATEGORIES 1	2	3	4	5	6	7	8	
Averages	126.83	0	74.61	45	500	74.7	75.1	76.6	72.8	74.7	72.6	74.9	77.7	
009740271	108.00	0	63.53	14	387	60.0	68.0	65.0	63.6	60.0	60.0	60.0	60.0	
009750020	112.00	0	65.88	22	411	60.0	60.0	60.0	63.6	66.7	40.0	60.0	60.0	
009760098	136.00	0	80.00	80	555	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	
009760137	130.00	0	76.47	51	519	80.0	76.0	77.5	72.7	80.0	80.0	80.0	80.0	
009760150	111.00	0	65.29	20	405	75.0	64.0	62.5	63.6	66.7	60.0	60.0	60.0	
009760159	104.00	0	61.18	8	363	60.0	64.0	60.0	60.0	66.7	60.0	60.0	60.0	
009760168	129.00	0	75.88	48	513	80.0	80.0	80.0	67.3	80.0	80.0	80.0	80.0	
009760190	102.00	0	60.00	0	351	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
009760189	118.00	0	69.41	28	447	75.0	72.0	75.0	61.8	73.3	60.0	60.0	80.0	
009760227	105.00	0	61.76	11	369	60.0	64.0	62.5	61.8	60.0	60.0	60.0	60.0	
009760248	132.00	0	77.65	60	531	80.0	76.0	80.0	76.4	60.0	80.0	80.0	80.0	
009770000	152.00	0	89.41	91	651	95.0	80.0	82.5	92.7	93.3	100.0	100.0	100.0	
009770004	146.00	0	85.88	82	615	95.0	72.0	77.5	92.7	86.7	80.0	100.0	100.0	
009770009	125.00	0	73.53	40	489	70.0	76.0	75.0	76.4	66.7	60.0	60.0	80.0	
009770013	133.00	0	78.24	65	537	85.0	68.0	75.0	80.0	80.0	80.0	80.0	100.0	"STUDENT LETTER" for this student
009770022	123.00	0	72.35	37	477	65.0	68.0	75.0	70.9	60.0	80.0	80.0	80.0	
009770029	167.00	0	98.24	97	741	100.0	92.0	97.5	100.0	100.0	100.0	100.0	100.0	
009770050	161.00	0	94.71	94	705	95.0	92.0	97.5	96.4	86.7	80.0	100.0	100.0	
009770064	135.00	0	79.41	74	549	80.0	80.0	80.0	80.0	80.0	60.0	80.0	80.0	
009770078	119.00	0	70.00	31	453	80.0	64.0	67.5	70.9	60.0	80.0	80.0	80.0	
009770084	133.00	0	78.24	65	537	80.0	80.0	80.0	76.4	73.3	80.0	80.0	80.0	
009770088	133.00	0	78.24	65	537	80.0	80.0	80.0	76.4	73.3	80.0	80.0	80.0	
009770089	114.00	0	67.06	25	423	60.0	76.0	77.5	60.0	60.0	60.0	60.0	80.0	
009770102	102.00	0	60.00	0	351	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
009770104	146.00	0	85.88	82	615	80.0	92.0	92.5	80.0	86.7	100.0	80.0	80.0	
009770111	135.00	0	79.41	74	549	80.0	80.0	80.0	78.2	80.0	80.0	80.0	80.0	
009770144	109.00	0	64.12	17	393	60.0	68.0	67.5	60.0	66.7	60.0	60.0	60.0	
009770164	130.00	0	76.47	51	519	80.0	80.0	80.0	70.9	73.3	80.0	80.0	80.0	
009770184	132.00	0	77.65	60	531	80.0	80.0	80.0	74.5	73.3	80.0	80.0	80.0	
009770194	120.00	0	70.59	34	459	60.0	80.0	80.0	65.5	73.3	60.0	60.0	60.0	
009770214	102.00	0	60.00	0	351	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
009770219	150.00	0	88.24	88	639	80.0	96.0	90.0	87.3	93.3	80.0	80.0	80.0	
009770224	126.00	0	74.12	42	495	70.0	80.0	77.5	67.3	80.0	80.0	80.0	80.0	
009770234	131.00	0	77.06	57	525	70.0	84.0	85.0	70.9	80.0	80.0	80.0	80.0	
009770238	128.00	0	75.29	45	507	80.0	76.0	80.0	69.1	73.3	80.0	80.0	80.0	

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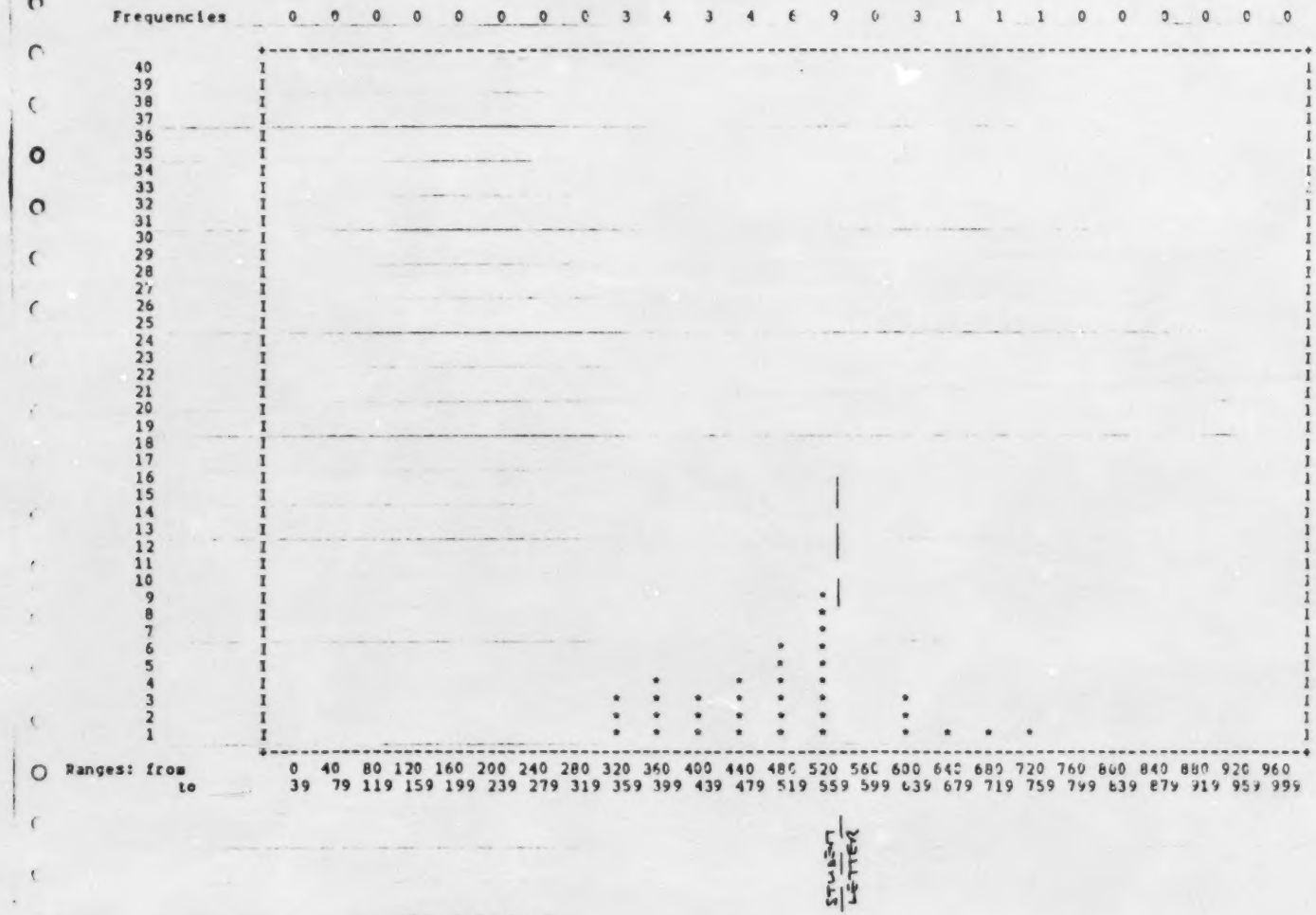
G. Cason
OED UAMSC

Z-SCORE HISTOGRAM

Prepared on 21-[redacted]-80 at 12:51

Test: 1-JR YR MED 79-80: COHORT [redacted]
Instructor: Dr. Ackermann
Course: Medicine Jr. Yr. Clerkship

College: Medicine
Slot: Phone: 661-5160
Students present: 35 Absent: 0 Withdrawn: 0



STUDENT LETTER

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G. Cason
OED - UAMS C

TEST ANALYSIS SUMMARY — Prepared on 21-[illegible]-80 at 12:51

Test: 1-JR YR MED 79-80: COHORT [illegible]
Instructor: Dr. Ackermann
Course: Medicine Jr. Yr. Clerkship

College: Medicine
Slot: Phone: 661-5160
Students present: 35 Absent: 0 Withdrawn: 0

CATEGORY NUMBER	CATEGORY NAME	NUMBER OF ITEMS	MAXIMUM POINTS	AVERAGE SCORE Raw	%	RELIABILITY (Alpha)	STD DEVIATION Raw	%	STD ERROR OF MEASURE Raw	%	#
1	COGNITIVE SKILLS	4	20	14.94	74.7	0.94	2.35	11.8	0.56	2.8	24
2	COMMUNICATION	5	25	18.77	75.1	0.88	2.45	9.8	0.83	3.3	34
3	ATTITUDE	8	40	30.63	76.6	0.95	3.98	9.9	0.93	2.3	23
4	PATIENT WORK-UP	11	55	40.03	72.8	0.96	6.12	11.1	1.29	2.3	21
5	THERA. DESIGN/PROCEDURES	3	15	11.20	74.7	0.81	1.61	10.7	0.70	4.7	44
6	PERF. UNDER STRESS	1	5	3.63	72.6	0.00	0.69	13.8	0.69	13.8	100
7	POTENT. FOR ADV. TRNG.	1	5	3.74	74.9	0.00	0.66	13.1	0.66	13.1	100
8	PROVISIONAL GRADE	1	5	3.89	77.7	0.00	0.63	12.6	0.63	12.6	100
	All	34	170	126.83	74.6	0.98	16.69	9.8	2.34	1.4	14

Reliability not computed unless there are at least 2 items in category.

The Reliability index reported above is Cronback's Coefficient Alpha.
This statistic is computed from a generalization of Kuder-Richardson Formula 20.
Values of Alpha may be interpreted as follows:

Below 0.60	UNACCEPTABLE as basis for evaluation
0.60 - 0.69	POOR basis for evaluation
0.70 - 0.79	FAIR basis for evaluation
0.80 - 0.90	GOOD basis for evaluation
0.90 - 1.00	EXCELLENT basis for evaluation

The Standard Error of Measurement (SEM) allows one to estimate the probability that a student's retest score (on a test having equal difficulty) would fall within a given range of his original test score. The assumption is made that no real change has occurred in the student.

Level of Confidence (probability)	Predicted score range: Original score + and -
75%	1.15 SEM
95%	1.96 SEM
99%	2.58 SEM

A student's retest score will fall within 1.15 SEM of his original score 75% of the time. The larger the value of Alpha (above), the smaller the SEM and the more precisely you have measured the student's performance.

Statistics for item discrimination and reliability are not calculated for item types "Series Continued" (3), "Bonus" (4), and "Invalid" (5).

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